

LISTING OF THE CLAIMS

Applicant hereby presents the claims, their status in the application, and amendments thereto as indicated:

1. (Currently amended) An optical machine-readable medium for recording A two-dimensional bar code ~~system~~ recognizable in bidirection, including an encoding region consisting of nodes arranged in a form of matrix, an encoding information sequence is disposed sequentially in two dimensions on said nodes of said matrix in one direction and in a reversible order, and comprises directional symbols, wherein said directional symbols are arranged at specific locations having bilateral symmetry in said encoding information sequence, said direction in which said encoding information sequence is disposed on said nodes of said matrix is identified by a combination of said specific locations and values of said directional symbols.

2. (Currently amended) The medium ~~system~~ as claimed in claim 1, wherein said directional symbols comprise data symbols and error-correcting symbols.

3. (Currently amended) The medium ~~system~~ as claimed in claim 2, wherein said directional symbols consist of symbols S_{11} , S_{10} , ..., S_1 , S_0 , STA, R_1 , R_2 , R_3 , R_4 , STO, S'_0 , S'_1 , ..., S'_{10} , S'_{11} , which comply with a relationship as follow:

a symbol sequence $\{STO, R_4, R_3, R_2, R_1, STA, S_0, S_1, \dots, S_{10}, S_{11}\}$ acts as one BCH (18, 6) error-correcting code sequence, a symbol sequence $\{STA, R_1, R_2, R_3, R_4, STO, S'_0, S'_1, \dots, S'_{10}, S'_{11}\}$ acts as another BCH (18, 6) error-correcting code sequence, symbols STA, STO and $R_1 \sim R_4$ are said data symbols, symbols STA, STO function as locating control characters indicating said direction, $R_1 \sim R_4$ functions as normal information characters, $S_0 \sim S_{11}$ and $S'_0 \sim S'_{11}$ are said error-correcting symbols belongin g to said error-correcting code sequences.

4. (Currently amended) The medium system as claimed in claim 3, wherein said directional symbols are arranged at said specific locations having bilateral symmetry in such a way that:

said directional symbols R_2 , R_1 , STA, S_0 , S_1 , ..., S_{10} , S_{11} correspond to locations within left half part of said encoding information sequence according to a distributional rule, and said directional symbols R_3 , R_4 , STO, S'_0 , S'_1 , ..., S'_{10} , S'_{11} correspond to locations within right half part of said encoding information sequence according to said distributional rule.

5. (Currently amended) The medium system as claimed in claim 4, wherein said distributional rule complies with an analog random discrete distribution.

6. (Currently amended) A method for reading the optical machine-readable medium a ~~recognizing a two-dimensional bar code system~~ as claimed in claim 1, comprising the steps of:

(1) reading encoding information at said nodes within said matrix in one recognition direction and in said reversible order to obtain said encoding information sequence;

(2) extracting said directional symbols from said specific locations in obtained encoding information sequence; and

(3) determining said direction in which said encoding information sequence is disposed on said node of said matrix based on said combination of said specific locations and values of said directional symbols.

7. The method as claimed in claim 6, wherein said directional symbols comprise data symbols and error-correcting symbols.